

Interim Source Control Measure Work Plan Crawford Street Portland, Oregon

TO: Jim Orr/Oregon DEQ

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This memorandum presents the work plan for the interim source control measure (ISCM Work Plan) at the Crawford Street Corporation (CSC) site in Portland, Oregon (Site) (Figure 1, Figure 2). This ISCM Work Plan presents the general concept for the proposed ISCM, describes the anticipated design and construction issues and tasks, and estimates the general schedule for the ISCM.

Interim Action Source Control Measure Concept

Pathway Analysis and ISCM Purpose

CSC has performed extensive sampling and analysis on the Site under an Oregon Department of Environmental Quality (DEQ) Portland Harbor source control evaluation (SCE). Pathway analyses completed as part of the SCE have identified offsite storm water discharge as a potential pathway for chemicals to migrate from the Site to Portland Harbor (i.e., Willamette River). Figure 3 shows the current, approximate storm water basins and offsite discharge points.

The northern portion of the Site is currently used for offices, metal forging, and wood reclamation and the southern portion is currently used for storage and staging of steel sheets. However, the Site is anticipated to be developed in the next few years for commercial and urban residential use. The development of the Site is anticipated to include demolition of existing structures, significant regrading, and construction of buildings, pavement, and landscaped areas across the Site. While the development of the Site will likely include storm water management infrastructure and treatment features, the specific nature of the infrastructure and features are unknown and cannot be currently predicted.

DEQ has requested that CSC perform an ISCM to address the potential storm water pathway prior to the Site development. The purpose of the ISCM is to reduce the amount of uncontrolled storm water discharge from the Site and provide some level of treatment to Site storm water. Whether the ISCM represents a final SCM will be determined based on the timing and nature of the Site development and monitoring of the effectiveness of the ISCM.

Conceptual Scope and Layout of ISCM

Figure 4 presents a conceptual layout of the ISCM. The ISCM is anticipated to include collection berms and vegetated swales along the southern and western edges of the Site. The vegetated swales will provide storm water treatment and convey the water to an infiltration basin in the southwest corner of the Site. Based on the current, approximate storm water drainage basins, the proposed ISCM will collect about 85 percent of the storm water runoff from the Site,

excluding roof areas. The infiltration basin will be sized to contain runoff generated during a design storm. During normal operating conditions, storm water collected in the basin will infiltrate and offsite storm water discharge will be limited to runoff from the eastern edge of the Site. The concentrations of suspended solids, metals, and nutrients in the storm water will be reduced in the infiltration basin through settling, filtration, and biological uptake. During extreme conditions, runoff volumes exceeding the design criteria will be discharged offsite to either the storm water system present on the City of Portland property adjacent west of the Site or directly to the Willamette River.

Design, Construction, and Operation ISCM Issues and Tasks

The following design, construction, and operation issues are anticipated to be addressed to implement the ISCM.

Engineering Design

Several engineering design tasks will be performed to refine the conceptual ISCM layout presented on Figure 4. These design tasks/issues will be performed consistent with the 2014 City of Portland Stormwater Management Manual and will include:

- **Topographic survey.** Preliminary topographic information is generally consistent with the drainage basins developed from direct Site observations during heavy rainfall events. A comprehensive topographic survey will be performed to more precisely establish the current site grade.
- **Grade design.** The results of the topographic survey will be analyzed to confirm that the current site grade is consistent with the conceptual layout shown in Figure 4 and provide input into the hydrology analysis discussed below. The grade design will determine whether minor grading may significantly increase the area captured by the ISCM. The necessary cross-section and slope of the swales will also be determined.
- **Hydrology analysis, infiltration tests, and slope stability analysis.** The ISCM will reduce offsite storm water discharge by capturing the storm water runoff and allowing it to infiltrate on the Site, primarily in the infiltration basin located in the southwest corner of the Site. The necessary size of the basin will be determined based on a hydrology analysis (e.g., design storm event, area of basin, nature of the ground surface within the basin) and the anticipated rate of infiltration. Infiltration tests will be necessary to assess the anticipated rate of infiltration. Existing groundwater investigation data is anticipated to provide necessary groundwater depth information. Groundwater is not anticipated to be encountered in any excavation necessary to construct the ISCM. Slope stability analysis will be performed using existing data to confirm that the ISCM will not cause slope instability along the riverbank.
- **City of Portland permit scoping.** Meeting the City of Portland requirements and obtaining the necessary City of Portland permits will require coordination with the City Bureau of Development Services and the City Bureau of Environmental Services. The Site is within City of Portland General Employment land use zones EG1 (north portion) and EG2 (south portion). The Site is also within the St. Johns Plan District and the southern portion of the Site is within the City greenway overlay. As part of the greenway overlay, a minimum 50-foot setback from the top of the riverbank may be required for any ISCM constructed feature (see approximate Greenway setback shown on Figure 4). Coordination will be critical to ensure that the permitting issues required by these zones and overlays are addressed. A pre-application conference will be held with the Bureau of Development Services during the design process to identify the specific permits, reviews, and design tasks necessary to

address City permitting issues.

- **Contaminated soil.** Existing soil sampling and analysis data, as well as overall general site use history, will be reviewed to assess the potential for, and nature of, contaminated soil in areas requiring grading or excavation. Contaminated soil management procedures will be developed based on the results of the review. The nature of contaminated soil in the basin area will be also reviewed to assess the potential for storm water infiltration to affect groundwater quality. Based on the lack of groundwater impacts noted in groundwater samples collected at the Site, material groundwater impacts are not anticipated. The existing soil sampling and analysis data are anticipated to be sufficient for these reviews and additional soil sampling and analysis is not anticipated to be necessary. In general, excavated soil that cannot be reused on site will likely require sampling and offsite management in a solid waste facility.

The results of the engineering design will be presented in an ISCM design report. The ISCM design report will present a detailed design of the ISCM including construction and permit drawings. The ISCM design report will be submitted to DEQ for review and approval.

Contracting

Once DEQ approves the ISCM design, CSC will prepare contract documents and select a contractor to perform the work. The contractor will have experience constructing similar projects in the City of Portland.

Permitting

CSC and the contractor will work with the City to obtain the necessary City permits. The specific scope of the necessary permits is anticipated to be established through the pre-application meeting with the City Bureau of Development Services. At a minimum, the City permitting process is anticipated to include a land use review and a site development permit review. Preliminary engineering may suggest that locating portions of the ISCM within the Greenway setback may be more effective and feasible than the location shown in Figure 4. Encroaching on the greenway setback would likely require additional land use review.

The contractor will obtain an NPDES storm water construction permit and prepare the necessary erosion and sediment control plans.

Construction

Once all of the necessary permits are obtained, the contractor will construct the ISCM. CSC will observe, monitor, and document the construction to confirm that the ISCM is constructed in accordance with the DEQ-approved design report. The contractor will coordinate with the City for any necessary City inspections.

Maintenance, Monitoring, and Reporting

CSC will prepare a completion report at the conclusion of the ISCM construction documenting the construction activities and presenting the as-built conditions. A monitoring and maintenance plan will be prepared describing the tasks to be performed to assess the performance of the ISCM and the periodic inspection and maintenance activities to ensure the continued effective operations of the ISCM.

ISCM Design and Construction Schedule

The estimated schedule for the ISCM design and construction is shown in Table 1.

Table 1
Estimated Design and Construction Schedule
Crawford Street Interim Source Control Measure

Task	Months
Engineering design	3 (after DEQ approval of ISCM Work Plan)
Design report	1
DEQ approval of design report	1
Contracting	1
Permitting	4
Construction	1
Completion report	1
Total	12

Thus, about one year (after DEQ approval of the ISCM Work Plan) will be required for the ISCM design and construction. Monitoring and maintenance is anticipated to be performed for several years (i.e., likely until the site is redeveloped).

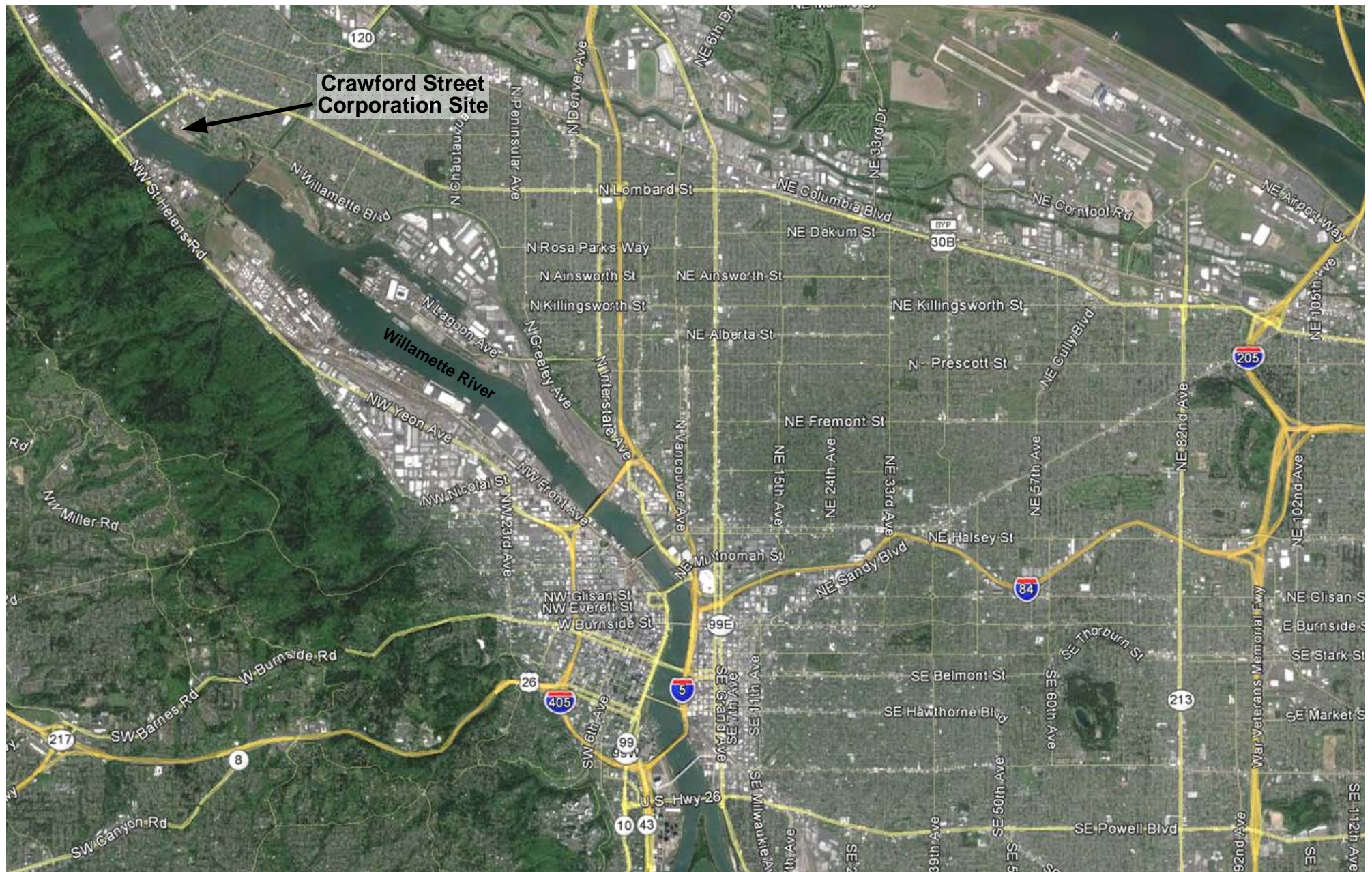
Attachments:

Figure 1 – Site Location Map

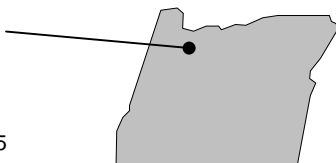
Figure 2 – Site Plan

Figure 3 – Existing Storm Water Basins and Discharge Points

Figure 4 – Conceptual Interim Source Control Measure



Portland,
Oregon



Base photograph April 2015



Approximate Scale



6000 feet

Figure 1
Site Location Map
Crawford Street Corporation

BRIDGEWATER GROUP, INC.



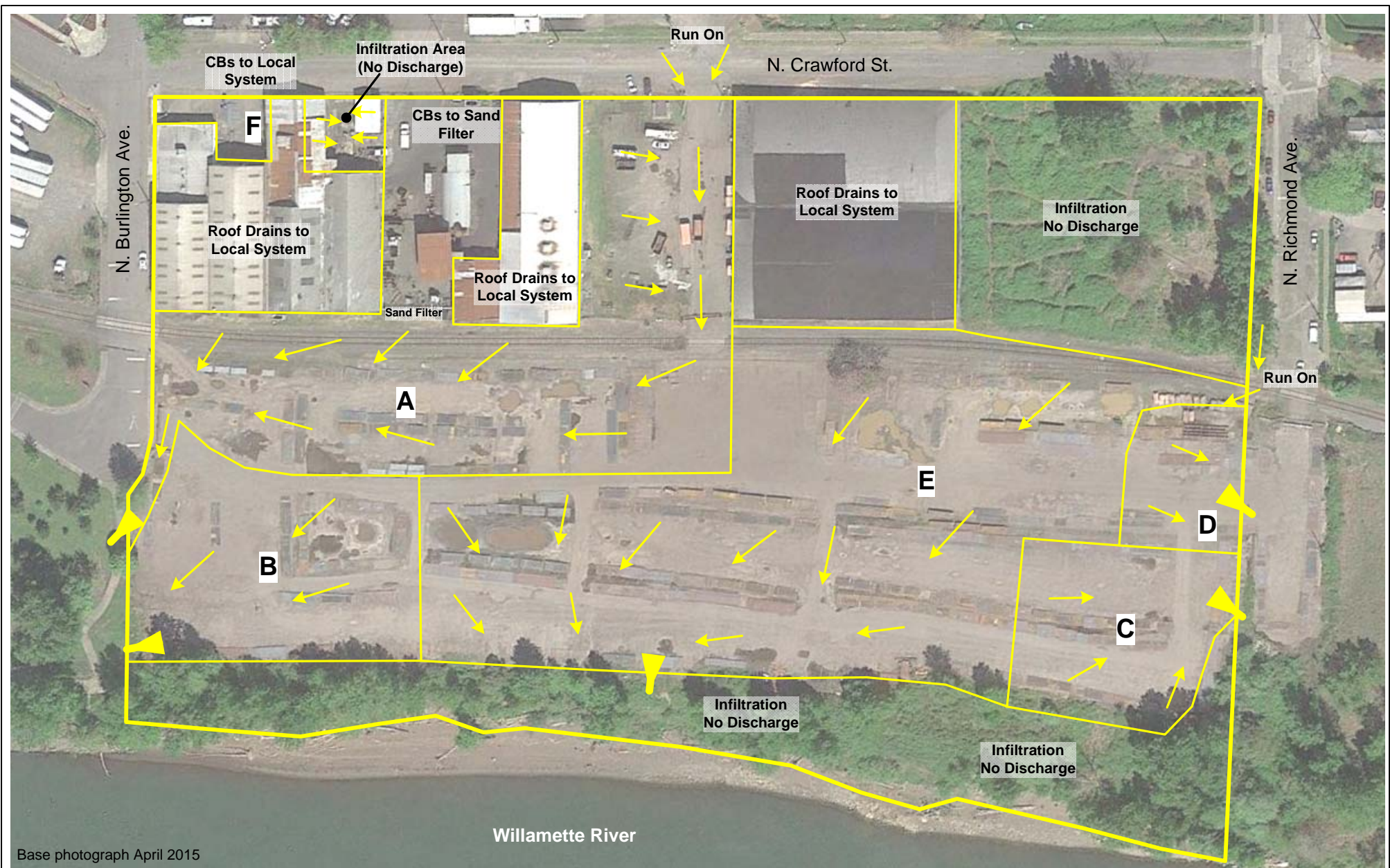
Project Actual

Approximate Scale

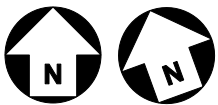
120 ft.

Figure 2
Site Plan
Crawford Street Corporation
Portland, OR

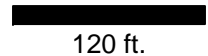
BRIDGEWATER GROUP, INC.



Project Actual



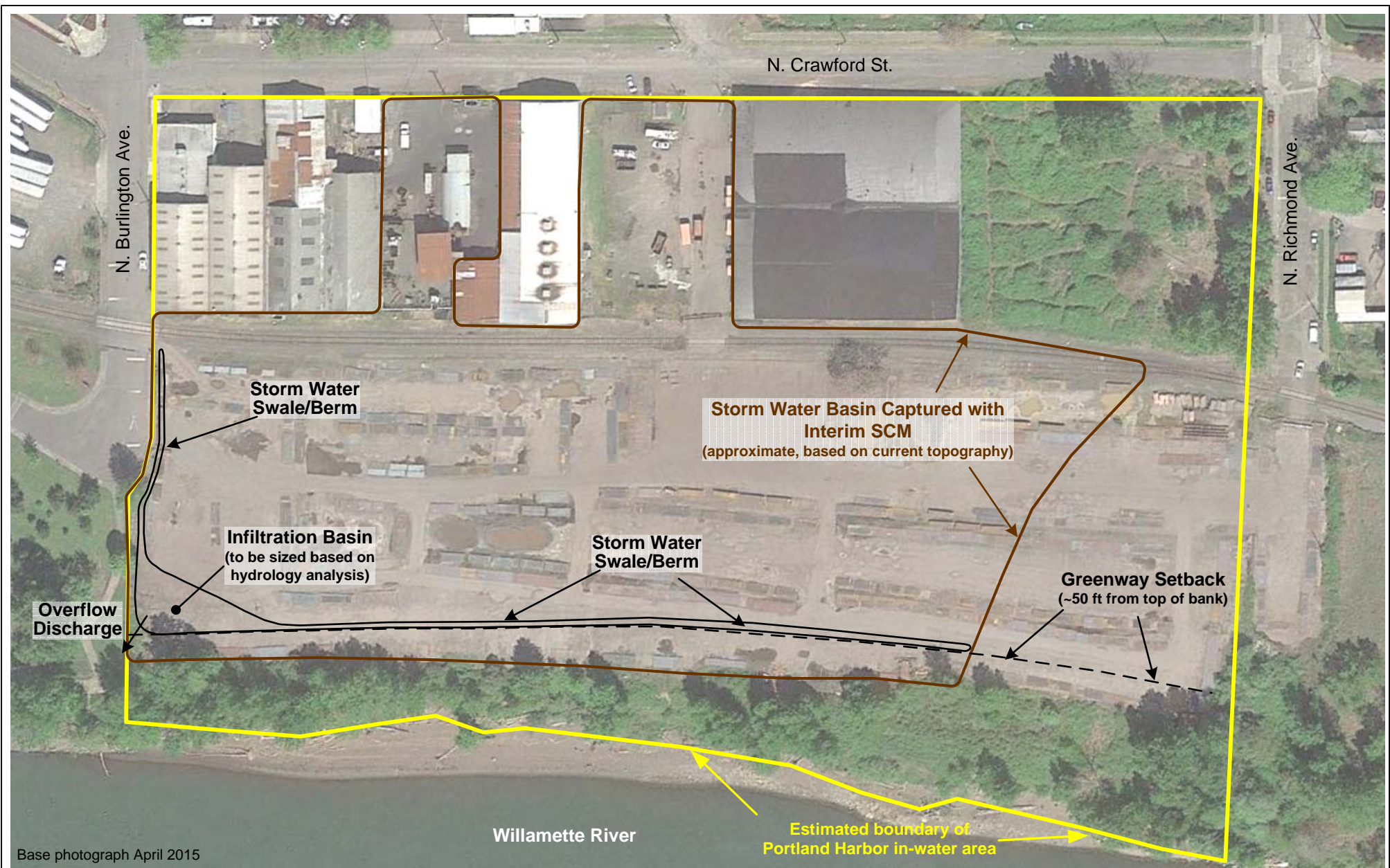
Approximate Scale



A Offsite Storm Water Discharge Drainage Basin and Discharge Points

Figure 3
Existing Storm Water Basins and
Discharge Points
Crawford Street Corporation
Portland, OR

BRIDGEWATER GROUP, INC.



Project Actual

Approximate Scale

120 ft.

Figure 4
 Conceptual Interim
 Source Control Measure
 Crawford Street Corporation
 Portland, OR

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